

## Claims

- [c1] A method for operating a tire pressure monitoring system having an auxiliary tire in an auxiliary location and a warning status memory comprising:  
generating a speed signal corresponding to a vehicle speed;  
receiving an auxiliary sensor transmitter identification signal;  
generating a cumulative time signal corresponding to a cumulative receiving time of the transmitter identification signal;  
when the speed is greater than a predetermined speed and when the cumulative time signal is greater than a predetermined time, associating the auxiliary sensor identification to an auxiliary location of the warning status memory.
- [c2] A method as recited in claim 1 wherein the auxiliary tire is other than a rolling tire in a rolling locations or a spare tire in a spare location.
- [c3] A method as recited in claim 1 wherein the auxiliary tire comprises an additional spare.
- [c4] A method as recited in claim 1 wherein the auxiliary tire comprises an trailer tire.
- [c5] A method as recited in claim 1 wherein the auxiliary tire comprises a plurality of trailer tires.
- [c6] A method as recited in claim 1 further comprising generating warning statuses for each tire in the rolling locations, the spare location, and the auxiliary location.
- [c7] A method as recited in claim 1 wherein said predetermined time is a function of a time when the vehicle speed is greater than the predetermined speed.
- [c8] A method for operating a tire pressure monitoring system having rolling tires in a rolling locations, a spare tire in a spare location and an auxiliary tire in an auxiliary location comprising:  
associating the plurality of rolling tires with a respective plurality of rolling locations and a spare tire with a spare location in a warning status memory;  
generating a speed signal corresponding to a vehicle speed;

generating a time signal in response to a timer;  
 receiving an auxiliary sensor transmission signal when the speed is greater than  
 a predetermined speed;  
 when the time signal is greater than a predetermined time, associating the  
 auxiliary sensor identification to an auxiliary location of the warning status  
 memory.

- [c9] A method as recited in claim 8 wherein said predetermined time is a function of  
 a time when the vehicle speed is greater than the predetermined speed.
- [c10] A method as recited in claim 8 further comprising generating warning statuses  
 for each tire in the rolling locations, the spare location, and the auxiliary  
 location.
- [c11] A method as recited in claim 10 further comprising displaying the warning  
 statuses.
- [c12] A method as recited in claim 8 wherein the auxiliary tire is other than a rolling  
 tire in a rolling location or a spare tire in a spare location.
- [c13] A method as recited in claim 8 wherein the auxiliary tire comprises an additional  
 spare.
- [c14] A method as recited in claim 8 wherein the auxiliary tire comprises a trailer tire.
- [c15] A method as recited in claim 8 wherein the time signal corresponds to a  
 cumulative time the auxiliary transmission signal has been received from an  
 auxiliary transmitter.
- [c16] A tire pressure monitoring system for a vehicle comprising:  
 a speed sensor generating a speed signal indicative of vehicle speed;  
 a timer generating a time signal;  
 a warning status memory having warning statuses therein;  
 a plurality of rolling tires in respective rolling location, said plurality of rolling  
 tires having respective rolling transmitters;  
 an auxiliary tire in an auxiliary location having an auxiliary transmitter  
 generating an auxiliary sensor transmission signal;

a controller coupled to the rolling transmitters, the auxiliary tire transmitter and the warning status memory, said controller receiving the auxiliary sensor transmission signal, when the speed is greater than a predetermined speed and, when the time signal is greater than a predetermined time, associating the auxiliary sensor identification to an auxiliary location of the warning status memory.

- [c17] A system as recited in claim 16 wherein said controller is RF coupled to the rolling transmitters, spare tire transmitter, and auxiliary transmitter.
- [c18] A system as recited in claim 16 wherein the auxiliary tire is other than a rolling tire in a rolling location or a spare tire in a spare location.
- [c19] A system as recited in claim 16 wherein said predetermined time is a function of a time when the vehicle speed is greater than the predetermined speed.
- [c20] A system as recited in claim 16 wherein the time signal corresponds to a cumulative time the auxiliary transmission signal has been received from an auxiliary transmitter.